



PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Masaaki ARAKI et al.

Group Art Unit: 2629

Application No.: 10/057,973

Examiner: C. ALMEIDA

Filed: January 29, 2002

Docket No.: 111813

For: IMAGE RECORD MEDIUM AND IMAGE RECORD APPARATUS

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This request is being filed with a Notice of Appeal. Review of the May 8, 2009 Final Rejection is requested for the reasons set forth in the attached five or fewer sheets.

Should any questions arise regarding this submission, or the Review Panel believe that anything further would be desirable in order to place this application in even better condition for allowance, the Review Panel is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,

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JAO:DAT/add

Attachment: Notice of Appeal to the Board of Patent Appeal and Interferences

Date: August 5, 2009

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REMARKS

The May 8, 2009 Final Rejection rejects claims 1-17 and 19 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,118,572 to Kostecki et al. (hereinafter "Kostecki") in view of U.S. Patent No. 4,164,365 to Saxe. This rejection is respectfully traversed.

The Office Action concedes that Kostecki does not teach a functional layer having 10% or less in visible light transmittance. The Office Action asserts that Saxe remedies these shortfalls of Kostecki.

The Office Action asserts that it would have been obvious to have combined the copolymer of Saxe, disclosed at col. 16, lines 10-11, with the alleged functional layer 12 of Kostecki to have suggested a functional layer formed on one side of the image record layer, having a function of transmitting the exposure light and having 10% or less in visible light transmittance, as recited in independent claim 1, and similarly recited in independent claims 5, 9 and 14. This assertion is incorrect for at least the following reasons.

Kostecki teaches at, *e.g.*, col. 5, lines 51-56, the substrate 12 being a translucent material. Further, Kostecki teaches at, *e.g.*, col. 5, lines 40-50, that the substrate 12 must inherently allow both UV light for exposure and visible light to form a window or other optical product (see, *e.g.*, col. 4, lines 17-34). Thus, as conceded by the Office Action, Kostecki would not have suggested any material having a function of transmitting the exposure light and having 10% or less in visible light transmittance.

Saxe teaches, at, *e.g.*, col. 2, lines 50-54, a novel and improved polymer to stabilize liquid suspensions, the polymer being for use in liquid suspensions for light valves. Further, Saxe teaches, at, *e.g.*, col. 19, lines 16-22, that this invention may be used for a light valve that operates in part, or all of, the infrared and/or ultraviolet portions of the electromagnetic spectrum, as well as the visible part of electromagnetic spectrum depending on the type of

light valve and suspension employed. Thus, polymers of Saxe either transmit light or do not transmit light depending on the state of the light valve.

Saxe would not have suggested any material with different light transmission for visible light and any exposure light because Saxe would not have suggested any exposure light and Saxe would not have suggested a material with different transmission for different parts of the spectrum. Therefore, neither Kostecki nor Saxe would have suggested the image record layer, having a function of transmitting the exposure light and having 10% or less in visible light transmittance. The combination of Kostecki with Saxe would have blocked or allowed all light. Therefore, even if combined, the combination of Kostecki with Saxe would not have suggested a functional layer formed on one side of the image record layer, having a function of transmitting the exposure light and having 10% or less in visible light transmittance.

The Office Action asserts that it would have been obvious to make the substrate 12 of Kostecki with the copolymer of Saxe. The copolymer of Saxe is in the form of a suspension in isopropyl alcohol (IPA) (see, *e.g.*, col. 14, lines 52-56). It would not have been predictable to have replaced a solid substrate 12 of Kostecki with a suspension of copolymer in IPA, because the semiconductor layer 14 and electrochromic layer 16 could not have been formed on such a liquid (see, *e.g.*, col. 5, lines 51-61 of Kostecki).

Further, Kostecki teaches at, *e.g.*, col. 5, lines 8-22, that the photoelectrochromic device is based on performing the light-absorbing function in a semiconductor material that produces photogenerated pairs of charge carriers, holes and electrons and the an electrochromic material in direct contact with semiconductor that scavenges the holes or electrons causing a redox reaction in the electrochromic material, which thereby changes its color. Thus, the photoelectrochromic device of Kostecki requires light to change color. Substituting the copolymer of Saxe, which transmits little light, for the translucent substrate

12 of Kostecki would have rendered Kostecki unsatisfactory for its intended purpose.

Therefore, it would not have been predictable to combine Kostecki with Saxe.

Regarding claim 3, the Office Action asserts that substrate 12 of Kostecki, in Fig. 1B would have suggested a functional layer that transmits the exposure light and shields visible light, as recited in claim 3. As argued above, substrate 12 is merely a translucent material (see, *e.g.*, col. 5, lines 51-53) that must inherently allow both UV light for exposure light and visible light to form a window or other optical product (see, *e.g.*, col. 4, lines 17-34).

Therefore, substrate 12 cannot reasonably be considered to have suggested the features recited in claim 3.

Regarding claim 7, the Office Action asserts that Kostecki teaches at col. 1, lines 1-65, an image write process of applying the exposure light representing an image to the plurality of placed image record media and applying the image write voltage to the image record medium on which the same visible image as the image is to be recorded. Kostecki teaches at, col. 1, lines 1-65, electrochromic devices and photoelectrochromic devices. Kostecki specifically teaches at, *e.g.*, col. 1, lines 24-26, that photoelectrochromic refers to a change in color produced by photogenerated charge carriers. Kostecki would not have suggested applying an exposure light and write image voltage to record the image record medium because Kostecki would not have suggested any device that requires both light and voltage to record any image.

Regarding claim 9, the Office Action asserts that the substrate 12 of Kostecki in Fig. 1D correspond to first and second image record layers on which an image is recorded upon application of exposure light. As argued above, substrate 12 is merely a substrate. Kostecki would not have suggested any image recorded on substrate 12. Kostecki teaches that element 22 shown in Fig. 1D, is an electrode for applying a voltage across the device (see, *e.g.*, col. 6, lines 5-10). Thus, Kostecki would not have suggested that element 22 is an

image or an image recording layer. Therefore, Kostecki would not have suggested first and second image record layers, as recited in claim 9.

Regarding claim 15, the Office Action asserts that Kostecki teaches, at col. 6, lines 11-20, the exposure section changes a light amount of the exposure light when a visible image is recorded on the first image record layer of the placed image record medium and when a visible image is recorded on the second image record layer. The above portion of Kostecki teaches that the photoelectrochromic device exists in two states. Kostecki would not have suggested a first image record layer and a second image record layer. Nor would Kostecki have suggested changing any amount of line based on the exposure of one image record layer.

For at least the foregoing reasons, the combination of Kostecki with Saxe cannot reasonably be considered to have suggested the combinations of all of the features recited in claims 1, 3, 7, 5, 9, 14 and 15. Further, combination of Kostecki with Saxe cannot reasonably be considered to have suggested the combinations of all of the features recited in claims 2, 4, 6, 8, 10-13, 16, 17 and 19 for at least the dependence of these claims on allowable base claims, as well as for the separately patentable subject matter that each of these claims recites.

Accordingly, reconsideration and withdrawal of the rejection of claims 1-17 and 19 under 35 U.S.C. 103(a) as being unpatentable over Kostecki in view of Saxe are respectfully requested.

The Final Rejection rejects claim 18 under 35 U.S.C. §103(a) as being unpatentable over Kostecki and Saxe in view of U.S. Patent No. 4,223,308 to Baraff et al. (hereinafter "Baraff"). This rejection is respectfully traversed.

The Office Action concedes that Kostecki and Saxe do not teach the first and second image record layers has a display layer made of a cholesteric liquid crystal whose optical characteristic changes upon application of voltage for recording a visible image. The Office

Action asserts that Baraff remedies these shortfalls of Kostecki and Saxe. As argued above, Kostecki and Saxe cannot reasonably be considered to have suggested the combination of all of the features recited in claim 14. Baraff, as applied to claim 14, does not remedy the above-discussed shortfalls of Kostecki and Saxe. Therefore, the combination of Kostecki with Saxe and Baraff cannot reasonably be considered to have suggested the combination of all of the features recited in claim 18 for at least the dependence of this claim on allowable base claims, as well as for the separately patentable subject matter that this claim recites.

Accordingly, reconsideration and withdrawal of the rejection of claim 18 under 35 U.S.C. 103(a) as being unpatentable over Kostecki and Saxe in view of Baraff are respectfully requested.